

ATTORNEY DOCKET NO. 07121.0003U1
Application No. 09/990,874

Amendments to the Drawings

The attached sheets of drawings include changes to Figures 1 and 2. These sheets, which include Figures 1 and 2, replace the original sheets including Figures 1 and 2. In Figure 1, previously omitted SEQ ID NOs have been added and the description of the abbreviations has been removed. In Figure 2, previously omitted SEQ ID NOs have been added.

Attachment: Replacement sheets

Annotated Sheets Showing Changes

Annotated Sheet Showing Changes

Ca	23				S	AFNTQAAP	31
Cs	1				G		1
Tr2#		10	20	30	40		
Bp	1	RTITNEMGN	HSGYDYELWK	DYGN-T-SMTL	NNGGAFSAGW	N--NIGNA	45
Ca	32	KTITNEIGV	NGGYDYELWK	DYGN-T-SMTL	KNNGAFSCQW	S--NIGNA	76
Fs	1	NSSVTGNVG	SSPYHYEIW	QGG-NNSMTF	YDNGTYKASW	N--GTNDF	44
Cs	2	RIIYDNETGT	HGGYDYELWK	DYGN-T-IMEL	NDGGTFSCQW	S--NIGNA	46
Rf	1	SAADQQTRGN	VGGYDYEMWN	QNGGQASMN	PGAGSFTCSW	S--NIENF	46
Tr2	1	QTIQPGTGY	NNGYFYSYWN	DGHGGVITYN	GPGGQFSVNW	S--NSGNF	45
Tv	1	QTIQPGTGF	NNGYFYSYWN	DGHGGVITYN	GPGGQFSVNW	S--NSGNF	45
Th	1	QTIGPGTGY	SNGYYSYWN	DGHAGVITYN	GGGGSTFTVNW	S--NSGNF	45
Sc	1	SGTPSSSTGT	DGGYYSWWT	DGAGDATYQN	NGGGSYTLTW	SG-NNGNL	46
An	1		S AGINYVQNYN	GNLGDFTY-D	ESAGTFSMYW	EDGVSSDF	38
Ak	1		S AGINYVQNYN	GNLGDFTY-D	ESAGTFSMYW	EDGVSSDF	38
AT	1		S AGINYVQNYN	QNLGDFTY-D	ESAGTFSMYW	EDGVSSDF	38
Tr1	1		ASINYDQNYQ	TGG-QVSY-	PSNTGFSVNW	N--TQDDF	34
Aa	1	RSTPSSTGE	NNGYYSFWT	DGGGDVITYN	CNAGSYSVEW	S--NVGNF	45
Ss	1	ATTIT-NETGY	D-GMYYSFWT	DGGGSVSMTL	NGGGSYSTRW	T--NCGNF	45
SlB	1	DTVVTNQEGT	NNGYYSFWT	DSQGTVMNM	GSGGQYSTSW	R--NTGNF	47
SlC	1	ATTITNQGT	D-GMYYSFWT	DGGGSVSMTL	NGGGSYSTQW	T--NCGNF	46
Tl	1	QTPNSEGW	HDGYYSWWS	DGGAQATYTN	LEGGTYEISW	G--DGGNL	45
Tf	1	AVTSNETGY	HDGYYSFWT	DAPGTVMEL	GPGGNYSTSW	R--NTGNF	45
Bc	1		ASTDYWQNW	DGGGIVNAV	GSGGNYSVNW	S--NTGNF	36
Bs	1		ASTDYWQNW	DGGGIVNAV	GSGGNYSVNW	S--NTGNF	36

FIGURE 1

Annotated Sheet Showing Changes

Tr2#		50	60	70	80	
Bp	46	LFRK-GKKFD	ST-RTHHQLG	NISINYNASF	N-PSGNSYLC	VYGTQSP 90
Ca	77	LFRK-GIKFN	DT-QTYKQLG	NISVNYNCNY	Q-PYGNSYLC	VYGTSSP 121
Fs	45	LARV-GPKYD	EK-HTYEELG	PIDAYYKWSKQ	GSAGGYNYIG	YGTVD 91
Cs	47	LFRK-GRKFN	SD-KTYQELG	DIVVEYCDY	N-PNGNSYLC	VYGTTRNF 91
Rf	47	LARM-GKNYD	SQKKNYKAFG	NIVLTYDVEY	T-PRGNSYMC	VYGTTRNP 92
Tr2	46	VGGK-GWQPG	TKNKV-----	---INFS-GS	YNPNGNSYLS	VYGWSRNP 83
Tv	46	VGGK-GWQPG	TKNKV-----	---INFS-GS	YNPNGNSYLS	VYGWSRNP 83
Th	46	VGGK-GWQPG	TKNKV-----	---INFS-GS	YNPNGNSYLS	VYGWSRNP 83
Sc	47	VGGK-GWNP	AASRS-----	---ISYS-GT	YQPNGNSYLS	VYGTTRSS 84
An	39	VVGL-GWTTG	SSNA-----	---ITYSAEY	SASGSSSYLA	VYGVNYP 77 76
Ak	39	VVGL-GWTTG	SSNA-----	---ITYSAEY	SASGSSSYLA	VYGVNYP 77 76
At	39	VVGL-GWTTG	SSNA-----	---ITYSAEY	SASGSSSYLA	VYGVNYP 77
Tr1	35	VGV-GWTTG	SSAP-----	---INFGSF	SVNSGTGLLS	VYGSTNP 72
Aa	46	VGGK-GWNP	SAKD-----	---ITYSGNF	T-PSGNGYLS	VYGTDP 83
Ss	46	VAGK-GWANG	GR-RT-----	---VRYT-GW	FNPSGNGYGC	LYGWTSP 82
SlB	48	VAGK-GWANG	GR-RT-----	---VQYS-GS	FNPSGNAYLA	LYGWTSP 84
SlC	47	VAGK-GWSTG	DGN-----	---VRYN-GY	FNPSGNGYGC	LYGWTSP 82
Tl	46	VGGK-GWNP	LNARA-----	---IHPE-GV	YQPNGNSYLA	VYGTTRNP 83
Tf	46	VAGK-GWATG	GR-RT-----	---VTYS-AS	FNPSGNAYLT	LYGTTRNP 82
Bc	37	VVGK-GWTTG	SPFRT-----	---INYNAGV	WAPNGNGYLT	LYGTTRSP 75
Bs	37	VVGK-GWTTG	SPFRT-----	---INYNAGV	WAPNGNGYLT	LYGTTRSP 75

Tr2#		90	100	110	120	130
Bp	91	LAEYYIVDSW	GTYR-PT--G	AYKGSFYADG	GTYDIYETTR	VNOPSIIIG 135
Ca	122	LVEYYIVDSW	GSWRPP--GG	TSKGTITVDG	GIYDIYETTR	INOPSIOG 167
Fs	92	LVEYYIVDDW	FNKPGANLLG	QRKGFTVDG	DTYEIWQNT	VQQPSIKG 139
Cs	92	LVEYYIVESW	GSWRPP--GA	TPKGTITQWMA	GTYDIYETTR	VNOPSIDG 138
Rf	93	LMEYYIVBGW	GDWRPPGNDG	EVKGTVSANG	NTYDIRKTM	YNOPSLDG 140
Tr2	84	LIEYYIVENF	GTYN-PSTGA	TKLGEVTSBG	SVYDIYRTQ	VNOPSIIIG 130
Tv	84	LIEYYIVENF	GTYN-PSTGA	TKLGEVTSBG	SVYDIYRTQ	VNOPSIIIG 130
Th	84	LIEYYIVENF	GTYN-PSTGA	TKLGEVTSBG	SVYDIYRTQ	VNOPSIIIG 130
Sc	85	LIEYYIVESY	GSYD-PSSAA	SHKGSVTCNG	ATYDILSTWR	YNAPSIDG 131
An	77 78	GAEYYIVEDY	GDYN-PCSSA	TSIGTVYSDG	STYQVCTDTR	INEPSITG 124 123
Ak	77 78	QAEYYIVEDY	GDYN-PCSSA	TSIGTVYSDG	STYQVCTDTR	TNEPSITG 124 123
At	78	QAEYYIVEDY	GDYN-PCSSA	TSIGTVYSDG	STYQVCTDTR	INEPSITG 124
Tr1	73	LVEYYIMEDN	HNY--PAQ-G	TVKGTVTSBG	ATYTIWENT	VNEPSIOG 117
Aa	84	LIEYYIVESY	GDYN-PGSGG	TTRCNVSSDG	SVYDIYTATR	TNAPSIDG 130
Ss	83	LVEYYIVDNW	GSYR-PT--G	ETRGTVHSDG	GTYDIYKTTR	YNAPSVBA 127
SlB	85	LVEYYIVDNW	GSYR-PT--G	EYKGTVTSBG	GTYDIYKTTR	VNKPSVEG 129
SlC	83	LVEYYIVDNW	GSYR-PT--G	TYKGTVSSDG	GTYDIYQTTR	YNAPSVBG 127
Tl	84	LVEYYIVENF	GTYD-PSSGA	TDLGTVBCDG	SIYRLGKTTR	VNAPSIDG 130
Tf	83	LVEYYIVESW	GTYR-PT--G	TYMGTVTDDG	GTYDIYKTTR	YNAPSIBG 127
Bc	76	LIEYYVDSW	GTYR-PT--G	TYKGTVKS DG	GTYDIYTTTR	YNAPSIDG 120
Bs	76	LIEYYVDSW	GTYR-PT--G	TYKGTVKS DG	GTYDIYTTTR	YNAPSIDG 120

FIGURE 1 CONT'D

Annotated Sheet Showing Changes

Tr2#		140	150	160	
Bp	136	-IATFKQYWS	VRQTKRTS--	-----GTVS	VSAHFRKWES LGMPM-GK 174
Ca	168	-NTTFKQYWS	VRRTKRTS--	-----GTIS	VSKHFAAWES KGMPM-GK 206
Fs	140	-TQTFQYWS	VRKSARSC--	-----GHJD	ITAHMKKWE LGMKM-GK 178
Cs	139	-TATFQYWS	VRTSKRTS--	-----GTIS	VTEHFKQWER MGMRM-GK 177
Rf	141	-TATFQYWS	VRQTSQSANN	QTNYMKGTID	VSKHFDWASA AGLDMSGT 187
Tr2	131	-TATFQYWS	VRNRHR-S-S	-----GSVN	TANHFNAAWQ QGLTL-GT 168
Tv	131	-TATFQYWS	VRNRHR-S-S	-----GSVN	TANHFNAAWQ QGLTL-GT 168
Th	131	-TATFQYWS	VRNRHR-S-S	-----GSVN	TANHFNAAWAS HGLTL-GT 168
Sc	132	-TQTFQYWS	VRNPKKAPGG	SIS--GTVD	VQCHFDWAKG LGMNLGSE 175
An	124125	-TSTFTQYFS	VRESTRTS--	-----GTVT	VANHFNFWAQ HGFNG-SD 162 162
Ak	124125	-TSTFTQYFS	VRESTRTS--	-----GTVT	VANHFNFWAQ HGFNG-SD 162 162
At	125	-TSTFTQYFS	VRESTRTS--	-----GTVT	VANHFNFWAH HGFNG-SD 163
Tr1	118	-TATFNQYIS	VRNSPR-T-S	-----GTVT	VQNHFNWAS LGHLGQM 155
Aa	131	-TQTFQYWS	VRQSKR-VG-	-----GTVT	TSNHFNAAWAK LGMNL-GT 168
Ss	128	-PAAFDQYWS	VRQSKVT--S	-----GTIT	TGNHFDWAR AGMNMGNF 168
SlB	130	TR-TFDQYWS	VRQSKR-TG-	-----GTIT	TGNHFDWAR AGMPLGNF 168
SlC	128	TK-TFQYWS	VRQSKVTSGS	-----GTIT	TGNHFDWAR AGMNMGNF 168
Tl	131	TQ-TFDQYWS	VRQDKR-T-S	-----GTVQ	TGCHFDWAR AGLNVNGD 169
Tf	128	TR-TFDQYWS	VRQSKRTS--	-----GTIT	AGNHFDWAR HGMHLGTH 166
Bc	121	DRTTFTQYWS	VRQSKRPTGS	N-----ATIT	FTNHVNAWKS HGMNLGSN 163
Bs	121	DRTTFTQYWS	VRQSKRPTGS	N-----ATIT	FSNHVNAWKS HGMNLGSN 163

Tr2#		170	180	190	
Bp	175	MYETAFTVEG	YQSSGSANVM	TNQLFIGN	201 SEQ ID NO:4
Ca	207	MHETAFNIEG	YQSSGKADVN	SMSINIGK	233 SEQ ID NO:6
Fs	179	MYEAKVLVEA	GGGSGSFDV-	TYFKMT	203 SEQ ID NO:18
Cs	178	MYEVALTVEG	YQSSGYANVY	KNEIRIGANP....	SEQ ID NO:7
Rf	188	LYEVSLNIEG	YRSNGSANVK	SVSV	211 SEQ ID NO:8
Tr2	169	MDYQIVAVEG	YFSSGSASI-	TVS	190 SEQ ID NO:16
Tv	169	MDYQIVAVEG	YFSSGSASI-	TVS	190 SEQ ID NO:17
Th	169	MDYQIVAVEG	YFSSGSASI-	TVS	190 SEQ ID NO:14
Sc	176	HNYQIVATEG	YQSSGTATI-	TVT	197 SEQ ID NO:9
An	163164	FNYQVMAVEA	WSGAGSASV-	TISS	184 185 SEQ ID NO:1
Ak	163164	FNYQVMAVEA	WSGAGSASV-	TISS	184 185 SEQ ID NO:54
At	164	FNYQVVAVEA	WSGAGSAAV-	TISS	185 SEQ ID NO:2
Tr1	157	MNYQVVAVEG	WGGSGSASQ-	SVSN	178 SEQ ID NO:15
Aa	169	HNYQILATEG	YQSSGSSSI-	TIQ	190 SEQ ID NO:19
Ss	167	RYYMINATEG	YQSSGSSSI-	TVSG	189 SEQ ID NO:12
SlB	169	SYMINATEG	YQSSGTSSI-	NVGG.....	SEQ ID NO:10
SlC	169	RYYMINATEG	YQSSGSSNI-	TVSG	191 SEQ ID NO:11
Tl	170	HYYQIVATEG	YFSSGYARI-	TVADVG	194 SEQ ID NO:20
Tf	167	D-YMINATEG	YQSSGSSNVT	LGTS.....	SEQ ID NO:13
Bc	164	WAYQVMATEG	YQSSGSSNV-	TVW	185 SEQ ID NO:3
Bs	164	WAYQVMATEG	YQSSGSSNV-	TVW	185 SEQ ID NO:5

FIGURE 1 CONT'D

Annotated Sheet Showing Changes

~~Bp — Bacillus pumilus~~
~~Ca — Clostridium acetobutylicum P262 XynB~~
~~Cs — Clostridium sporosarum XynA~~
~~Rf — Ruminococcus flavefaciens~~
~~Tr2 — Trichoderma reesei XYN-II~~
~~Tv — Trichoderma viride~~
~~Th — Trichoderma harzianum~~
~~Sc — Schizophyllum commune Xylanase-A~~
~~An — Aspergillus niger, var. awamori~~
~~At — Aspergillus kawachii XynC~~
~~At — Aspergillus tubigenensis~~
~~Tr1 — Trichoderma reesei XYN-I~~
~~Aa — Aspergillus awamori var. kawachi Xyn-B~~
~~Fs — Fibrobacter succinogenes XYN-II~~
~~Ss — Streptomyces sp. 36a~~
~~SlB — Streptomyces lividans Xln-B~~
~~SlC — Streptomyces lividans Xln-C~~
~~Tl — Thermomyces lanuginosus Xyn~~
~~Tf — Thermomonospora fusca TfxA~~
~~Bc — Bacillus circulans~~
~~Bs — Bacillus subtilis~~

FIGURE 1 CONT'D

5' -CT AGC TAA GGA GG CTG CAG ATG
G ATT CCT CC GAC GTC TAC
NheI PstI

[illegible]

FIGURE 2

Annotated Sheet Showing Changes

XyTv-101															
	92	93	94	95	96	97	98	99	100	101	102	103	104	105	
V	D	N	F	G	T	Y	N	P	S	T	G	A	T	K	L
TC	GAC	AAT	TTC	GGT	ACC	TAC	AAT	CCG	AGT	ACC	GGC	GCC	ACA	AAA	TTA
3'-G	TTA	AAG	CCA	TGG	ATG	TTA	GGC	TCA	TGG	CCG	CGG	TGT	TTT	AAT	
SallI			KpnI		XyTv-110				KasI/NarI						
XyTv-102															
106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121
G	E	V	T	S	D	G	S	V	Y	D	I	Y	R	T	Q
GGC	GAA	GTC	ACT	AGT	GAT	GGA	TCC	GTA	TAT	GAT	ATC	TAC	CGT	ACC	CAA
CCG	CTT	CAG	TGA	TCA	CTA	CCT	AGG	CAT	ATA	CTA	TAG	ATG	GCA	TGG	GTT
			SpeI		BamHI				XyTv-109						
TrX-103															
122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137
R	V	N	Q	P	S	I	I	G	T	A	T	F	Y	Q	Y
CGC	GTT	AAT	CAG	CCA	TCG	ATC	ATT	GGA	ACC	GCC	ACC	TTT	TAT	CAG	TAC
GCG	CAA	TTA	GTC	GGT	AGC	TAG	TAA	CCT	TGG	CGG	TGG	AAA	ATA	GTC	ATG
MluI					ClaI										
TrX-108															
138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153
W	S	V	R	R	N	H	R	S	S	G	S	V	N	T	A
TGG	AGT	GTT	AGA	CGT	AAT	CAT	CGG	AGC	TCC	GGT	TCG	GTT	AAT	ACT	GCG
ACC	TCA	CAA	TCT	GCA	TTA	GTA	GCC	TCG	AGG	CCA	AGC	CAA	TTA	TGA	CGC
TrX-108								SacI							
XyTv-104															
154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169
N	H	F	N	A	W	A	Q	Q	G	L	T	L	G	T	M
AAT	CAC	TTT	AAT	GCA	TGG	GCA	CAG	CAA	GGG	TTA	ACC	CTA	GGT	ACA	ATG
TTA	GTG	AAA	TTA	CGT	ACC	CGT	GTC	GTT	CCC	AAT	TGG	GAT	CCA	TGT	TAC
				NsiI		XyTv-107					AvrII				
XyTv-105															
170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185
D	Y	Q	I	V	A	V	E	G	Y	F	S	S	G	S	A
GAT	TAT	CAA	ATC	GTA	GCG	GTG	GAA	GGC	TAC	TTC	TCG	AGT	GGT	TCC	GCT
CTA	ATA	GTT	TAG	CAT	CGC	CAC	CTT	CCG	ATG	AAG	AGC	TCA	CCA	AGG	CGA
								XyTv-106				XhoI			
186	187	188	189	190											
S	I	T	V	S	SEQ ID NO:16										
AGT	ATT	ACA	GTG	AGC	TAA	A	SEQ ID NO:39								
TCA	TAA	TGT	CAC	TCG	ATT	TCT	AG-5'								
						BglII									

FIGURE 2 CONT'D →

Replacement Sheet

Ca	23				S AFNTQAAP	31
Cs	1				G	1
Tr2#		10	20	30	40	
Bp	1	RTITNNEMGN	HSGYDYELWK	DYCNT-SMTL	NNGGAFSAGW	N--NIGNA 45
Ca	32	KTITSNEIGV	NGGYDYELWK	DYGNT-SMTL	KNGGAFSCQW	S--NIGNA 76
Fs	1	NSSVTGNVG	SSPYHYEIWY	QGG-NNSMTF	YDNGTYKASW	N--GTNDF 44
Cs	2	RIIYDNETGT	HGGYDYELWK	DYGNT-IMEL	NDGGTFSCQW	S--NIGNA 46
Rf	1	SAADQQTRGN	VGGYDYEMWN	QNGQGQASMN	PGAGSFTCSW	S--NIENF 46
Tr2	1	QTIQPGTGY	NNGYFYSYWN	DGHGGVTYTN	GPGGQFSVNW	S--NSGNF 45
Tv	1	QTIQPGTGF	NNGYFYSYWN	DGHGGVTYTN	GPGGQFSVNW	S--NSGNF 45
Th	1	QTIGPGTGY	SNGYYSYWN	DGHAGVTYTN	GGGGSFTVNW	S--NSGNF 45
Sc	1	SGTPSSSTGT	DGGYYSWWT	DGAGDATYQN	NGGGSYTLTW	SG-MNGNL 46
An	1		S AGINYVQNYN	GNLGDFTY-D	ESAGTFSMYW	EDGVSSDF 38
Ak	1		S AGINYVQNYN	GNLADFTY-D	ESAGTFSMYW	EDGVSSDF 38
AT	1		S AGINYVQNYN	QNLGDFTY-D	ESAGTFSMYW	EDGVSSDF 38
Tr1	1		ASINYDQNYQ	TGG-QVSY-	PSNTGFSVNW	N--TQDDF 34
Aa	1	RSTPSSTGE	NNGYYSFWT	DGGGDVTYTN	GNAGSYSVEW	S--NVGNF 45
Ss	1	ATTIT-NETGY	D-GMYYSFWT	DGGGSVSMIL	NGGGSYSTRW	T--NCGNF 45
SlB	1	DTVVTNQEGT	NNGYYSFWT	DSQGTVMNM	GSQQYSTSW	R--NTGNF 47
SlC	1	ATTITNTQGT	D-GMYYSFWT	DGGGSVSMIL	NGGGSYSTQW	T--NCGNF 46
Tl	1	QTFPNSSEGW	HDGYYSWWS	DGGAQATYTN	LEGGTYEISW	G--DGGNL 45
Tf	1	AVTSNETGY	HDGYYSFWT	DAPGTVMEL	GPGGNYSTSW	R--NTGNF 45
Bc	1		ASTDYWQNW	DGGGIVNAV	GSGGNYSVNW	S--NTGNF 36
Bs	1		ASTDYWQNW	DGGGIVNAV	GSGGNYSVNW	S--NTGNF 36

FIGURE 1

Replacement Sheet

Tr2#		50	60	70	80	
Bp	46	LFRK-GKKFD	ST-RTHHQLG	NISINYNASF	N-PSGNSYLC	VYGWTQSP 90
Ca	77	LFRK-GKKFN	DT-QTYKQLG	NISVNYNCNY	Q-PYGNSYLC	VYGWTSSP 121
Fs	45	LARV-GFKYD	EK-HTYEELGPIDAYYKWSKQ	GSAGGYNYIG	IYGWTVDP	91
Cs	47	LFRK-GRKFN	SD-KTYQELG	DIVVEYGCDY	N-PNGNSYLC	VYGWTRNF 91
Rf	47	LARM-GKNYD	SQKIQYKAFG	NIVLTYDVEY	T-PRGNSYMC	VYGWTRNP 92
Tr2	46	VGGK-GWQPG	TKNKV----	---INFS-GS	YNPNGNSYLS	VYGWSRNP 83
Tv	46	VGGK-GWQPG	TKNKV----	---INFS-GS	YNPNGNSYLS	VYGWSRNP 83
Th	46	VGGK-GWQPG	TKNKV----	---INFS-GS	YNPNGNSYLS	IYGWSRNP 83
Sc	47	VGGK-GWNPG	AASRS----	---ISYS-GT	YQPNGNSYLS	VYGWTRSS 84
An	39	VVGL-GWTTG	SSNA-----	---ITYSAEY	SASGSSSYLA	VYGWVNYP 76
Ak	39	VVGL-GWTTG	SSNA-----	---ITYSAEY	SASGSSSYLA	VYGWVNYP 76
At	39	VVGLGWTG	SSNA-----	---ITYSAEY	SASGSASYLA	VYGWVNYP 77
Tr1	35	VVGW-GWTTG	SSAP-----	---INFGGSF	SVNSGTGLLS	VYGWSTNP 72
Aa	46	VGGK-GWNPG	SAKD-----	---ITYSGNF	T-PSGNGYLS	VYGWTTDP 83
Ss	46	VAGK-GWANG	GR-RT-----	---VRYT-GW	FNPSSNGYGC	LYGWTSNP 82
SlB	48	VAGK-GWANG	GR-RT-----	---VQYS-GS	FNPSSNAYLA	LYGWTSNP 84
SlC	47	VAGK-GWSTG	DGN-----	---VRYN-GY	FNPVNGYGC	LYGWTSNP 82
Tl	46	VGGK-GWNPG	LNARA-----	---IHFE-GV	YQPNGNSYLA	VYGWTRNP 83
Tf	46	VAGK-GWATG	GR-RT-----	---VTYS-AS	FNPSSNAYLT	LYGWTRNP 82
Bc	37	VVGK-GWTTG	SPFRT-----	---INYNAGV	WAPNGNGYLT	LYGWTRSP 75
Bs	37	VVGK-GWTTG	SPFRT-----	---INYNAGV	WAPNGNGYLT	LYGWTRSP 75

Tr2#		90	100	110	120	130	
Bp	91	LAEYYIVDSW	GTyr-PT--G	AYKGSFYADG	GTyDIYETTR	VNQPSSIIG	135
Ca	122	LVEYYIVDSW	GSWRPP--GG	TSKGTITVDG	GIYDIYETTR	INQPSIQG	167
Fs	92	LVEYYIVDDW	FNKPGANLLG	QRKGEFTVDG	DYEIWQNTT	VQQPSIKG	139
Cs	92	LVEYYIVESW	GSWRPP--GA	TPKGTITQWMAGTYEYETTR	VNQPSSIDG	138	
Rf	93	LMYYIVEGW	GDWRPPGNDG	EVKGTVSANG	NTYDIRKTM	YNQPSLDG	140
Tr2	84	LIEYYIVENF	GTYN-PSTGA	TKLGEVTSDG	SVYDIYRTQ	VNQPSSIIG	130
Tv	84	LIEYYIVENF	GTYN-PSTGA	TKLGEVTSDG	SVYDIYRTQ	VNQPSSIIG	130
Th	84	LIEYYIVENF	GTYN-PSTGA	TKLGEVTSDG	SVYDIYRTQ	VNQPSSIIG	130
Sc	85	LIEYYIVESY	GSYD-PSSAA	SHKGSVTCNG	ATYDILSTWR	YNAPSIDG	131
An	77	GAEYYIVEDY	GDYN-PCSSA	TSLGTVYSDG	STYQVCTDTR	INEPSITG	123
Ak	77	QAEYYIVEDY	GDYN-PCSSA	TSLGTVYSDG	STYQVCTDTR	TNEPSITG	123
At	78	QAEYYIVEDY	GDYN-PCSSA	TSLGTVYSDG	STYQVCTDTR	INEPSITG	124
Tr1	73	LVEYYIMEDN	HNY--FAQ-G	TVKGTVTSDG	ATYTIWENTR	VNEPSIQG	117
Aa	84	LIEYYIVESY	GDYN-PGSGG	TTRGNVSSDG	SVYDIYTATR	TNAPSIDG	130
Ss	83	LVEYYIVDNW	GSYR-PT--G	ETRGTVHSDG	GTyDIYKTTR	YNAPSVEA	127
SlB	85	LVEYYIVDNW	GTyr-PT--G	EYKGTVTSDG	GTyDIYKTTR	VNKPSVEG	129
SlC	83	LVEYYIVDNW	GSYR-PT--G	TYKGTVSSDG	GTyDIYQTTR	YNAPSVEG	127
Tl	84	LVEYYIVENF	GTyD-PSSGA	TDLGTVECDG	SIYRLGKTTR	VNAPSIDG	130
Tf	83	LVEYYIVESW	GTyr-PT--G	TYMGTVTTDG	GTyDIYKTTR	YNAPSIEG	127
Bc	76	LIEYYVVDWSW	GTyr-PT--G	TYKGTVKSDG	GTyDIYTTTR	YNAPSIDG	120
Bs	76	LIEYYVVDWSW	GTyr-PT--G	TYKGTVKSDG	GTyDIYTTTR	YNAPSIDG	120

FIGURE 1 CONT'D

Replacement Sheet

Tr2#		140	150	160	
Bp	136	-IATFKQYWS VRQTKRTS--	-----GTVS	VSAHFRKWES	LGMPM-GK 174
Ca	168	-NTTFKQYWS VRRTKRTS--	-----GTIS	VSKHFAAWES	KCMPL-GK 206
Fs	140	-TQTFQYFS VRKSARSC--	-----GHID	ITAHMKKWEE	LCMKM-GK 178
Cs	139	-TATFQYWS VRTSKRTS--	-----GTIS	VTEHFKQWER	MGMRM-GK 177
Rf	141	-TATFQYWS VRQTSGSANN	QTNMKGTID	VSKHFDWASA	AGLDMSGT 187
Tr2	131	-TATFYQYWS VRRNHR-S-S	-----GSVN	TANHFNAAWQ	QGLTL-GT 168
TV	131	-TATFYQYWS VRRTHR-S-S	-----GSVN	TANHFNAAWQ	QGLTL-GT 168
Th	131	-TATFYQYWS VRRNHR-S-S	-----GSVN	TANHFNAAWAS	HGLTL-GT 168
Sc	132	-TQTFQYFS VRNPKKAPGG	SIS--GTVD	VQCHFDWAKG	LCMNLGSE 175
An	124	-TSTFTQYFS VRESTRTS--	-----GTVT	VANHFNFWAQ	HGFN-SD 162
Ak	124	-TSTFTQYFS VRESTRTS--	-----GTVT	VANHFNFWAQ	HGFN-SD 162
At	125	-TSTFTQYFS VRESTRTS--	-----GTVT	VANHFNFWAH	HGFN-SD 163
Tr1	118	-TATFNQYIS VRNSPR-T-S	-----GTVT	VQNHFN-WAS	LGLHLGOM 155
Aa	131	-TQTFQYFS VRQNK-R-VG-	-----GTVT	TSNHFNAAWAK	LCMNL-GT 168
Ss	128	-PAAFDQYWS VRQSKVT--S	-----GTIT	TGNHFDWAR	AGMNMGNF 168
SlB	130	TR-TFDQYWS VRQSKR-TG-	-----GTIT	TGNHFDWAR	AGMPLGNF 168
SlC	128	TK-TFQYWS VRQSKVTSGS	-----GTIT	TGNHFDWAR	AGMNMGOQ 168
Tl	131	TQ-TFDQYWS VRQDKR-T-S	-----GTVQ	TGCHFDWAR	AGLNVNGD 169
Tf	128	TR-TFDQYWS VRQSKRTS--	-----GTIT	AGNHFDWAR	HCMHLGTH 166
Bc	121	DRTTFTQYWS VRQSKRPTGS	N-----ATIT	FTNHVNAWKS	HCMNLGSN 163
Bs	121	DRTTFTQYWS VRQSKRPTGS	N-----ATIT	FSNHVNAWKS	HCMNLGSN 163

Tr2#		170	180	190	
Bp	175	MYETAFTVEG	YQSSGSANVM	TNQLFIGN	201 SEQ ID NO:4
Ca	207	MHETAFNIEG	YQSSGKADVN	SMSINICK	233 SEQ ID NO:6
Fs	179	MYEAKVLVEA	GGGSGSFDV-	TYFKMT	203 SEQ ID NO:18
Cs	178	MYEVALTVEG	YQSSGYANVY	KNEIRIGANP....	SEQ ID NO:7
Rf	188	LYEVSLNIEG	YRSNGSANVK	SVSV	211 SEQ ID NO:8
Tr2	169	MDYQIVAVEG	YFSSGSASI-	TVS	190 SEQ ID NO:16
TV	169	MDYQIVAVEG	YFSSGSASI-	TVS	190 SEQ ID NO:17
Th	169	MDYQIVAVEG	YFSSGSASI-	TVS	190 SEQ ID NO:14
Sc	176	HNYQIVATEG	YQSSGTATI-	TVT	197 SEQ ID NO:9
An	163	FNYQVMAVEA	WSGAGSASV-	TISS	184 SEQ ID NO:1
Ak	163	FNYQVMAVEA	WSGAGSASV-	TISS	184 SEQ ID NO:54
At	164	FNYQVVAVEA	WSGAGSAV-	TISS	185 SEQ ID NO:2
Tr1	157	MNYQVVAVEG	WGGSGSASQ-	SVSN	178 SEQ ID NO:15
Aa	169	HNYQILATEG	YQSSGSSSI-	TIQ	190 SEQ ID NO:19
Ss	167	RYYMINATEG	YQSSGSSSTI-	TVSG	189 SEQ ID NO:12
SlB	169	SYMINATEG	YQSSGTSSI-	NVGG.....	SEQ ID NO:10
SlC	169	RYYMINATEG	YQSSGSSNI-	TVSG	191 SEQ ID NO:11
Tl	170	HYYQIVATEG	YFSSGYARI-	TVADVG	194 SEQ ID NO:20
Tf	167	D-YMIMATEG	YQSSGSSNVT	LGTS.....	SEQ ID NO:13
Bc	164	WAYQVMATEG	YQSSGSSNV-	TVW	185 SEQ ID NO:3
Bs	164	WAYQVMATEG	YQSSGSSNV-	TVW	185 SEQ ID NO:5

FIGURE 1 CONT'D

Replacement Sheet

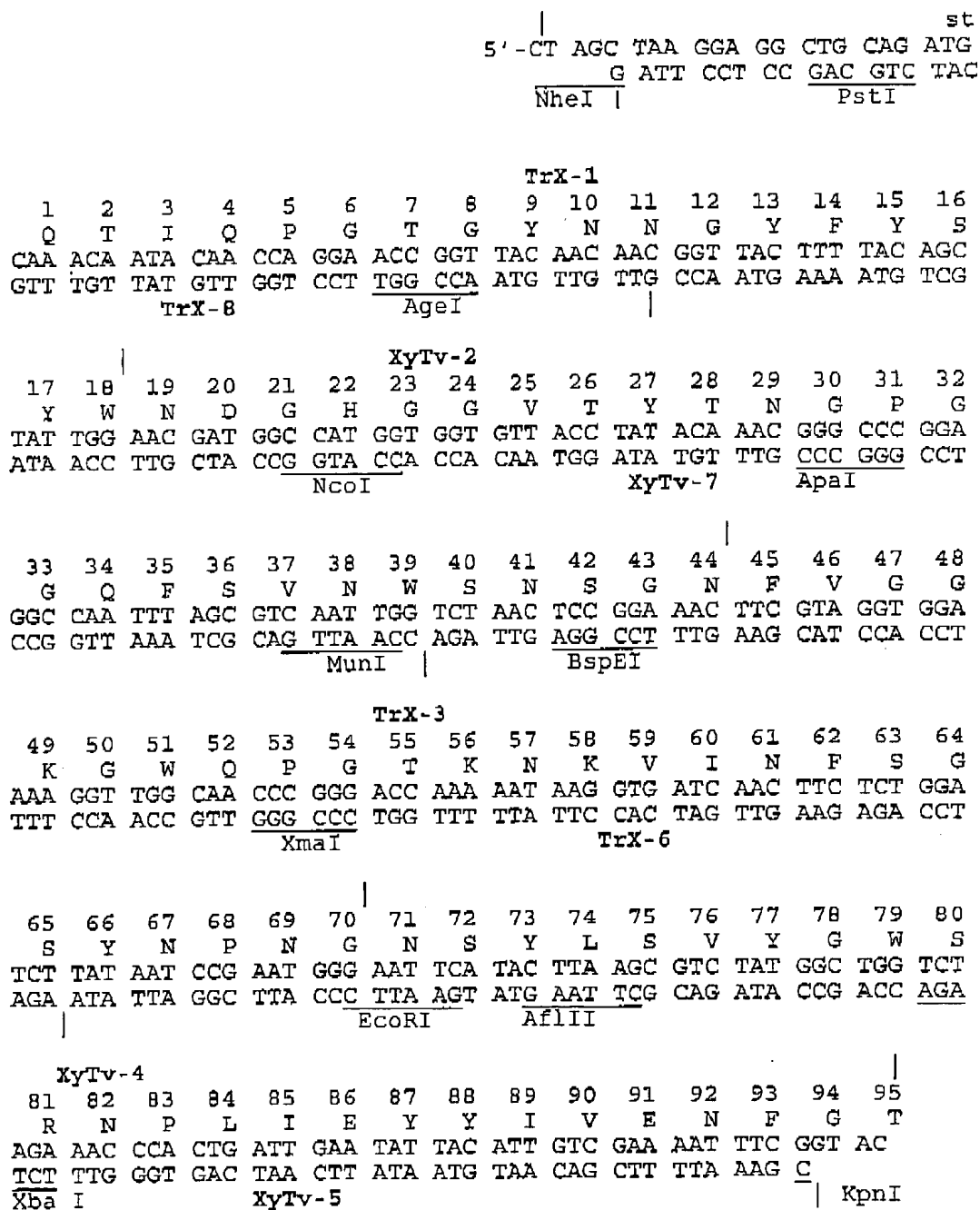


FIGURE 2

XyTv-101															
	92	93	94	95	96	97	98	99	100	101	102	103	104	105	
V	D	N	F	G	T	Y	N	P	S	T	G	A	T	K	L
TC	GAC	AAT	TTC	GGT	ACC	TAC	AAT	CCG	AGT	ACC	GGC	GCC	ACA	AAA	TTA
	3'-G	TTA	AAG	CCA	TGG	ATG	TTA	GGC	TCA	TGG	CCG	CGG	TGT	TTT	AAT
Sali I				Kpn I				XyTv-110				Kas I/Nar I			
XyTv-102															
106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121
G	E	V	T	S	D	G	S	V	Y	D	I	Y	R	T	Q
GGC	GAA	GTC	ACT	AGT	GAT	GGA	TCC	GTA	TAT	GAT	ATC	TAC	CGT	ACC	CAA
CCG	CTT	CAG	TGA	TCA	CTA	CCT	AGG	CAT	ATA	CTA	TAG	ATG	GCA	TGG	GTT
				Spe I				Bam HI				XyTv-109			
TrX-103															
122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137
R	V	N	Q	P	S	I	I	G	T	A	T	F	Y	Q	Y
CGC	GTT	AAT	CAG	CCA	TCG	ATC	ATT	GGA	ACC	GCC	ACC	TTT	TAT	CAG	TAC
CGC	CAA	TTA	GTC	GGT	AGC	TAG	TAA	CCT	TGG	CGG	TGG	AAA	ATA	GTC	ATG
Mlu I				Cla I											
TrX-108															
138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153
W	S	V	R	R	N	H	R	S	S	G	S	V	N	T	A
TGG	AGT	GTT	AGA	CGT	AAT	CAT	CGG	AGC	TCC	GGT	TCG	GTT	AAT	ACT	GCG
ACC	TCA	CAA	TCT	GCA	TTA	GTA	GCC	TCG	AGG	CCA	AGC	CAA	TTA	TGA	CGC
								Sac I							
XyTv-104															
154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169
N	H	F	N	A	W	A	Q	Q	G	L	T	L	G	T	M
AAT	CAC	TTT	AAT	GCA	TGG	GCA	CAG	CAA	GGG	TTA	ACC	CTA	GGT	ACA	ATG
TTA	GTG	AAA	TTA	CGT	ACC	CGT	GTC	GTT	CCC	AAT	TGG	GAT	CCA	TGT	TAC
				Nsi I				XyTv-107				Avr II			
XyTv-105															
170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185
D	Y	Q	I	V	A	V	E	G	Y	F	S	S	G	S	A
GAT	TAT	CAA	ATC	GTA	GCG	GTG	GAA	GGC	TAC	TTC	TCG	AGT	GGT	TCC	GCT
CTA	ATA	GTT	TAG	CAT	CGC	CAC	CTT	CCG	ATG	AAG	AGC	TCA	CCA	AGG	CGA
								XyTv-106				Xho I			
XyTv-106															
186	187	188	189	190											
S	I	T	V	S											
AGT	ATT	ACA	GTG	AGC	TAA	A									
TCA	TAA	TGT	CAC	TCG	ATT	TCT	AG-5'								
				Bcl II											

FIGURE 2 CONT'D